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A TRIP TO PILAWIN

A FOREST SCENE.

A

TRIP TO PILAWIN

THE DEER-PARK OF
COUNT JOSEPH POTOCKI IN VOLHYNIA
RUSSIA

BY

R. LYDEKKER

54177

LONDON
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1908

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PREFACE

WHEN founding the Pilawin preserve in 1901 my intention was limited to the breeding of elk, which still have their native haunts not very far away to the north, but have for many years ceased to inhabit these forests. No one, to my knowledge, has hitherto attempted to naturalise these splendid deer in enclosed parks; but the fact that Pilawin forms a part of their original habitat induced me to try the experiment, which has thus far proved an unqualified success. The first big game introduced in Pilawin were thus elk; but soon after their introduction I had the opportunity when in England of

visiting the famous park of the Duke of Bedford at Woburn, and the wonders there seen enlarged my ideas with regard to Pilawin. Without any thought of rivalling the marvels of Woburn, I accordingly decided to add to the Pilawin park such of the deer of North America and Asia as appeared likely to thrive in Russia. Consequently I lost no time in obtaining specimens of American and Siberian wapiti, as well as of Caucasian red deer and the Manchurian Dybowski's deer, after which I continued to add other new inhabitants to the park as opportunity occurred. In 1905, thanks to the kind intervention of Prince Victor Kotchoubey, who is at the head of the Imperial estates, I received from H.M. the Emperor of Russia the valuable gift of three bison from the Imperial preserves of Bielowicz; while in the following year a pair of their American

relations, imported by Hagenbeck, was added to the herd.

Much work still remains to be done before Pilawin is placed on such a level that will make it of real interest and importance to the study of natural history. If possible, I should like to make it the home of all such species of big game to which the climate and other local conditions prove suitable. And when established, I want them to live practically in their wild and natural state, breeding freely, and lacking any sense of confinement and limitation. I want, in fact, to see Pilawin, not a zoological garden, but a wild forest, where the noblest kinds of game may enjoy the largest possible amount of freedom, and where the sportsman may find the enjoyment of real sport and the naturalist a great field for study.

Before concluding, I may avail myself of

the opportunity of tendering my best thanks to all who have so kindly assisted me in the enterprise. My first thanks are due to H.M. the Emperor; and I have next to thank the Duke of Bedford for the promise of a young American bison, which I hope will reach Pilawin during the spring. To the Princes A. S. and F. Radziwill, to Count Constantin Potocki, and to Mr. Zalenski I am indebted for elk. To Mr. Poklewski-Roziell my acknowledgments are due for Siberian roe; while I have to thank Madame Ouwaroff for the valuable gift of a couple of beavers. I have likewise the pleasure of acknowledging the valuable services of the firm of Hagenbeck of Hamburg, who carried out to my entire satisfaction all orders regarding the importation of living animals into Pilawin.

To the author of this little volume I desire to express my deepest gratitude and warmest

thanks; and I am both proud and pleased that the first description of Pilawin should come from the pen of such a well-known naturalist as Mr. Lydekker.

Last, but not least, my gratitude is due to the publisher for the manner in which this account of Pilawin is presented to the world.

JOSEPH POTOCKI.

ANTONINY, *January* 1908.

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A Trip to Pilawin

TOWARDS the close of the year 1906 I received an invitation from Count Joseph Potocki to pay him a visit in the following August in order to see his collection of deer at Pilawin, in the Russian province of Volhynia. After some preliminary correspondence, an invitation was also sent by Countess Potocki to my eldest daughter; and on receipt of this I finally decided to undertake the trip.

We started by the 8.35 P.M. boat-train from Victoria on Monday, August 19, and reached Warsaw in time for breakfast on the

following Wednesday. Breakfast at the Hotel Bristol (where, for the first time, we tasted fresh Russian caviare) was a welcome preliminary to an inspection of Warsaw, under the guidance of the Count's agent, who had kindly come to meet us on arrival at the station. The city can be seen easily and quickly by means of the excellent service of horse-trams, now in course of replacement by electric cars on the overhead-wire system.

Our attention was first attracted by the magnificent new Greek church, built of white bricks, with its golden cupola and lofty, detached campanile. The church faces the "Bristol," and behind it are the beautiful public gardens, which claimed a full share of our admiration. We also visited several of the fine old Catholic churches, including the famous cathedral. The striking and lofty

monument to the Polish King Sigismund, as well as the fine statue of the astronomer Copernicus, were likewise inspected and admired. Perhaps, however, the portion of the

THE BIG LAKE IN PILAWIN.

city which chiefly impressed us was the fine old market-place, with its irregular, picturesque buildings, its numerous stalls, and the people of diverse nationalities by whom it was thronged, all busy in either buying or selling.

By good luck, we also enjoyed the opportunity of seeing one of the Czar's Tcherkess cavalry regiments marching through the city; the sable uniforms and tall black astrachan papakhas (busbies) of the troopers forming a striking contrast to the white jackets of the Cossacks, who are to be seen everywhere in the streets.

After returning to our hotel, by 3.30 P.M. we were on our way to Terespol station, the terminus of the Kieff line, which we had to leave for Schepetowka, our destination, at five o'clock. We were somewhat delayed on our way by a great crush of vehicles at the bridge over the Vistula; and owing to the crowd of passengers at the station itself, taking tickets and registering the baggage was no easy matter; but it was eventually accomplished (by the hotel porter), and we were soon com-

EUROPEAN BISON IN THE OPEN.

fortably established in a sleeping compartment of the train ready for the start.

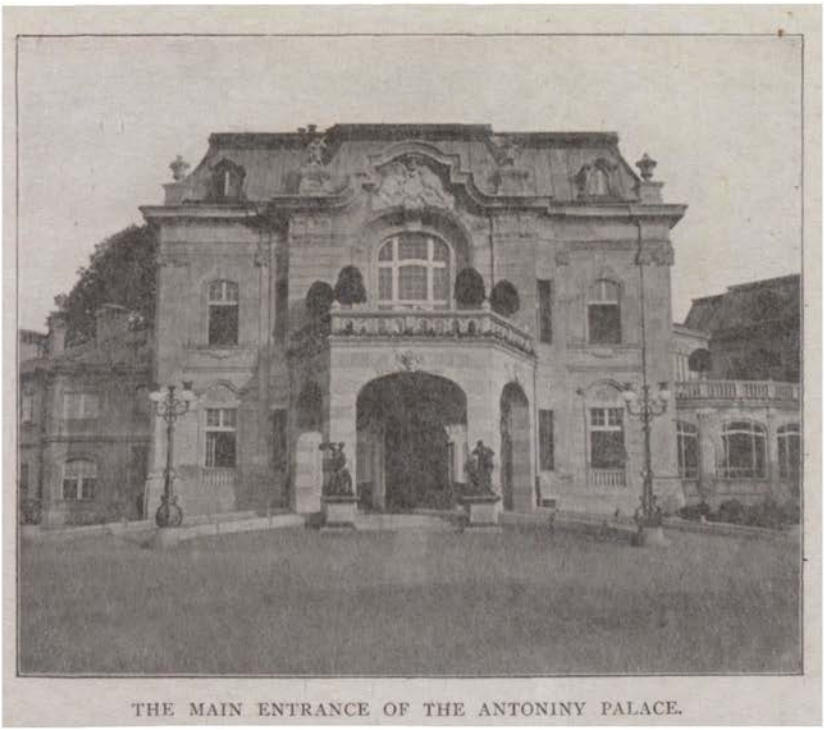
Here a word may be said in commendation of the railway service in this part of the Russian Empire; that is to say, when you are once in the train. The first-class sleeping compartments are comfortable and convenient; the *cuisine* is excellent; and the attendants are civil, attentive, and expert at interpreting the wants of those passengers to whom Russian and Polish are unknown tongues. Punctuality is, however, a virtue which on some occasions might be more cultivated.

At 5.10 A.M. on Thursday (only ten minutes behind our scheduled time) we reached Schepetowka station, where we found an open carriage, drawn by four horses abreast, in waiting; and in five minutes we were on our way to Antoniny, the country

seat of the Count and Countess Potocki. Small strongly-built phaetons with varnished wood-work are used for travelling. They are built at Vienna, and can be driven either with a four-in-hand or four abreast. A four-horse team is always kept ready at each changing-station. When travelling at night a smaller vehicle goes in front with torches. For baggage a second carriage is provided.

As there had been a deluge of rain during the night, the road, which for the greater part of the way formed a mere track across the yielding black alluvial soil, was very bad going, being in places indeed little better than lakes of mud, and almost everywhere cut up into deep ruts. Despite this (and the bad state of the track, as well as the condition of several of the wooden bridges, would have well-nigh broken the heart of an

English coachman), with only a single change of horses, the journey of some fifty kilometres



THE MAIN ENTRANCE OF THE ANTONINY PALACE.

was safely accomplished in a little over four hours; and by half-past nine, that is to say, about sixty-one hours from London, we were heartily welcomed by our kind host and

hostess and their family. It should be added that a metalled road is in course of construction, which, when completed, will render the journey from Schepetowka to Antoniny much easier.

To adequately describe Antoniny would far exceed the limits at my disposal; while even if considerations of space were non-existent, it would be difficult to do justice to a domain of such magnificence. It must suffice, then, to state that the palace, which is admirably situated on rising ground, and looks on to a spacious courtyard, with the stables on the farther side, has been added to by successive owners till it has attained what may be truly termed regal proportions, while it is kept up in corresponding style and state; the owner flying his own flag when in residence, while when the Countess alone is at home her flag is substituted.

As an indication of the owner's sporting tastes, reference may be made to a fine series of trophies of African and Indian big game displayed on portions of the walls of the hall as well as on those of the galleries and corridors above. These trophies are the results of four separate hunting trips undertaken by the Count: to India, Ceylon, Somaliland, and the Blue Nile. The Somali and Ceylon trips have been respectively described in a couple of handsome and lavishly illustrated volumes, the former of which has been translated into English. Among the trophies on which the owner sets especial store may be mentioned the heads of a beisa oryx (*Oryx beisa*) and of a dibatag or Clarke's gazelle (*Ammodorcas clarkei*), the horns of the latter approaching "record" measurements. Personally, however, I was more interested in the skins of a

Somali lion and lioness which show the abundant brown-spotting of the limbs, underparts, and flanks, characteristic of this race (*Felis leo somalica*). The lion skin, which (as is proved by the skull) belonged to an adult animal, is further remarkable for the practical absence of mane. Spotting seems peculiar (except in the case of cubs) to East African lions, and attains its maximum development in the Masai lion (*F. leo masaica*) of German East Africa.

In one of the corridors on the first floor leading from the main staircase to some of the bedrooms is displayed a fine group, consisting of a female bear and three cubs killed by Count Potocki last year in Northern Russia; while skins of three half-grown cubs shot some years ago in Lithuania ornament the floor. Bears, it may be observed, are believed to have

disappeared some two centuries ago from the neighbourhood of Antoniny, although they lingered considerably longer in Pilawin. A wolf was, however, killed near the palace only last

BEARS KILLED BY THE COUNT.

year, and a second soon after our visit, in September, close to where we changed horses.

Among the wonders of the Antoniny palace are its enormous wine-cellars, containing vast stores of rare vintages, of which the earliest is a

superb Tokay of 1693; these were visited after dinner, when we were attended by a number of servants bearing lighted candles on long wooden holders.

The gardens also—now rather more than a century old—cannot be passed over without some mention, as they are almost a dream of beauty and picturesqueness. Exquisitely kept, and situated on undulating ground intersected with streams, and dotted with small lakes, these gardens, which occupy many acres, are noted not only for their gorgeous display of flowers, but likewise for their splendid timber, consisting chiefly of spruce, aspen, oak, and sycamore, many of the trees being of unusual height and symmetry, while all have been planted with a view to the general effect. The large white Roman snail (*Helix pomatia*) is abundant in the gardens, where, however, it

may have been introduced, as I did not notice its presence elsewhere.

Yet one more feature of the domain remains

WAPITI STAGS TRYING FOR THE MASTERY.

to be noticed, namely its magnificent range of stabling, which faces the main front of the palace, and can have but few rivals, either in size or in fittings. The stables and stud are under the control of a "master of the horse."

The mention of stabling naturally suggests a few words concerning the famous Arab stud, which is kept half a mile or so away from the palace, and has no rival in Europe except in Mr. Wilfrid Scawen Blunt's well-known Arab stud in England. The greater number of Count Potocki's Arabs have been bred on the estate; and there is indeed at the present time only a single mare imported direct from Arabia. With the bare mention that there is an equally large stud of Anglo-Arabs and thoroughbreds, as well as a pack of stag-hounds and another of harriers, the other splendours of Antoniny must be left to the imagination of the reader.

Antoniny is, to a great extent, a self-supporting colony, having a large range of outbuildings and workshops, where almost everything required on the establishment is manufactured. All other supplies have to be

carted by road, either from Schepetowka or from a station on the Lemberg line, on the Austrian side.

To reach Antoniny from the railway at

AMERICAN BISON IN THE SNOW.

Schepetowka our route lay nearly due south. Pilawin, on the other hand, lies about eighty kilometres north of the railway, and we had therefore to return to Schepetowka; this journey being accomplished on the Saturday in about

three and a half hours, the road being in much better condition than on the previous Thursday. Saturday night was spent in a small single-storeyed house belonging to our host at Schepetowka; and by nine o'clock on the Sunday morning we were ready to start for Pilawin.

Here a few lines may be devoted to the nature of the country between Antoniny and Schepetowka. Throughout the whole district the soil consists of black alluvial mould, apparently extending to a great depth. The contour of the country takes the form of a series of low undulating and more or less nearly parallel ridges or hills, separated by wide valleys, and running to a considerable extent at right angles to the main direction of the road. In each valley is a river or a series of ponds, near to which a village is

WAPITI IN THE SNOW.

almost invariably situated. The rich soil yields luxuriant crops of wheat, oats, maize, millet, buckwheat, hemp, and sugar-beet; the latter being a crop yielding a large revenue to the owner. Although the country as a whole is open—reminding one, were it not for the undulations, strongly of Argentina—oak-forests are to be met with here and there. From the ponds and rivers are obtained abundance of carp and pike, which afford the fish-supply to the inhabitants of the district on fast days as well as on other occasions.

At Schepetowka occurs a deposit of thin-bedded sandy limestone mixed with sand, containing numbers of marine shells of Tertiary age; this sand being employed at Antoniny and elsewhere as gravel. I collected some of these shells on the garden-paths at Antoniny, and when I returned home took them to the

British Museum, where they were identified as *Trochus podolicus*, a species characteristic of the Sarmatian stage of the Miocene division of the Tertiary period.[1] As the species was unrepresented in the collection, the specimens were a welcome addition to the Museum. Later on, when visiting one of the Count's sugar-factories at Koretz (a large town on the Kieff road near Pilawin), I was shown specimens of a white limestone containing marine fossils. At the British Museum these were identified as *Trochus podolicus* and *Mactra podolica*; the latter species also belonging to the Sarmatian stage, and likewise unrepresented in the collection. The *Mactra*, it may be added, is a bivalve, and the *Trochus* a spiral univalve shell.

Reverting to the Schepetowka district, it

[1] See Geikie's *Text Book of Geology*, 1st edition, p. 867.

WAPITI CALLING.

remains to refer to the occurrence of large erratic blocks of a grey syenitic gneiss (commonly miscalled granite) which are used for road-metal, and likewise as an ornamental building stone at Antoniny. What I take to be the same rock is found *in situ* at Koretz, where it forms the foundation of an ancient ruined castle belonging to the Count. I was also interested in a rock containing fine blue crystals of Labrador felspar, polished balls of which are displayed at the entrance of Antoniny.

To the northward of Schepetowka the nature of the country undergoes a remarkable change, the soil becoming sandy in place of alluvial, and magnificent forests of Scotch fir replacing the cultivated ground and oak-forests on the south side of the line. In these forests, a short distance from Schepetowka, wild boars

are still numerous, although the number of head is believed to have been reduced by the severity of last winter. The huge size attained by the Schepetowka boars is demonstrated by a magnificent specimen — the gift of Count Potocki — exhibited in the Natural History branch of the British Museum at South Kensington.

After continuing for about a dozen or fifteen miles, the pine-forests cease, and we are once more on open cultivated land, which continues all the way to Pilawin; the soil being, however, more sandy and lighter in colour than that of the Antoniny district.

Only one change of horses was made on this journey, and that when only about one-third the distance had been accomplished. Despite the frightful condition of the roads and torrents of rain, the second team covered

EUROPEAN AND AMERICAN BISON IN THE PILAWIN PARK.

the sixty odd kilometres at a long swinging trot, which was only broken for short intervals twice during the journey. The last few miles before reaching the Pilawin forests were, however, on a macadamised road — the great military road from Warsaw to Kieff. Turning off from this road to the left some few miles after leaving Koretz, the final stage to Pilawin —about seven kilometres—was almost entirely through magnificent primeval forest. At the turning we were met by an escort of twelve Don Cossacks (whose duty it is to patrol the park), who rode alongside and behind the carriage till our destination was reached at 3.30, the whole eighty kilometres from Schepetowka having thus been covered, despite the heavy rain, in six-and-a-half hours.

The forest tract to which Count Potocki has given the name of Pilawin (a title

connected with the ancient family crest) comprises about seven thousand acres enclosed by an eight-foot timber paling, replaced, how-

A TYPICAL PILAWIN SCENE.

ever, in front of the shooting-lodge by wire fencing. The area of the whole forest from which Pilawin is cut off is about thirty thousand acres.

Passing through the ponderous rustic

WAPITI IN AUTUMN.

entrance gates, cleverly constructed of birch and aspen poles, and surmounted by some fine pairs of antlers and the Potocki crest, we first came upon a spacious open enclosure contain-

THE SHOOTING-LODGE AT PILAWIN.

ing a couple of fine bears, now about two years old, which were captured as cubs in Lithuania by a friend of the Count. In the enclosure are a couple of tall dead birch-trees, up which the bears are in the habit of

climbing. They are also provided with a kind of cavern, or den, in which they spend much of their time when the weather is hot; and they likewise have a bath.

Leaving these guardians, a few yards farther on we reached the picturesque and gabled shooting-lodge which was to form our residence for the next ten days; the Count and his family being quartered at another residence, at Pisczow, some four miles distant on the farther side of the Kieff road.

This shooting-lodge—which is in telephonic communication with all the other residences of the Count—is picturesquely situated on the western side of the Pilawin preserve, and overlooks in front a wide stretch of open cornfields, bordered by dense forest of Scotch pine, oak, and birch, with a few clumps of larch; while at the back the forest comes

up to within a few yards of the building itself.

Constructed entirely of wood, and erected

OURSELVES STARTING FROM THE SHOOTING-LODGE.

by the local workmen under the superintendence of Mr. Sokalski, an Austrian Pole, who occupies the post of director of the preserve, the Pilawin shooting-lodge is a spacious two-

storeyed building capable of affording excellent accommodation for three or four guests, and likewise containing the director's offices and the dwelling-rooms of the head forester. The exterior is covered with large sheets of birch-bark, thus giving to the building the appearance at a distance of being constructed of blocks of white stone.

The main apartment, on the first floor, which serves both as dining-room and smoking-room, is adorned with a number of sporting and natural history trophies, including numerous elk, wapiti, and other antlers, together with stuffed specimens of the white-tailed eagle (*Haliaëtus albicilla*), the spotted eagle (*Aquila heliaca*), capercaillie (*Tetrao urogallus*), and the rare black stork (*Ciconia nigra*).

I was specially interested in an imperfect

antler dug up some years ago in the neighbourhood, which the owner had been unable to identify. It is, however, clearly a reindeer antler, although different from any specimen that has hitherto come under my notice. I think it may indicate an extinct local race of the species, although I may be able to write more definitely on this point when a cast (which the owner will endeavour to have prepared) reaches the British Museum. From a distributional point of view this antler is of considerable interest, as it serves to connect the present habitat of the reindeer with Hungary, where fossil antlers also occur. Till recently reindeer remains were unknown to the southward of the Alps and Carpathians; but at a depth of two mètres in a sand-bed beneath brick-earth at Ober-Laibach, in Krain, there has been found a portion of an antler

of this species, now preserved in the museum at Laibach. This specimen is of the age of the so-called diluvium. Since in Bavaria and North Germany remains of the reindeer are abundant in deposits of the polished stone (Neolithic) age, while they are absent in the refuse-heaps of the Swiss pile-villages, the inference is that the species had become extinct in the Alps by the time of the diluvial epoch.

Another broken antler in the apartment dates back to the time—at least four centuries ago—when wild red deer still inhabited the surrounding forests.

The finest pair of elk antlers in the apartment possesses a special and distinctly pathetic interest of its own. These antlers, I was informed by the Count, belonged to an elk which two seasons ago attacked and killed an

unfortunate peasant on the estate. As the triumphant elk was departing from the scene of the murder, it was immediately attacked by

YOUNG ELK AND WAPITI.

a pugnacious wapiti with such vigour and determination, that after a short but severe encounter the death of the peasant was summarily avenged.

A few words may be here conveniently

devoted to the vegetation of these magnificent forests, which it is the object of their owner to preserve as much as possible in their original condition. In fact, the only changes that have been made are the construction of carriage roads (with a total length of about one hundred kilometres), the clearing away of fallen and half-fallen timber, the removal of superfluous under-covert, the draining of some of the swamps, and the construction of artificial lakes and of open spaces in the forest where abundant provender can be grown for the deer and bison.

The forest consists mainly of Scotch fir, oak (of two kinds), birch, and aspen. Generally the pines and deciduous trees grow upon different tracts, while even the oak, birch, and aspen severally display a marked tendency to occupy separate areas of their

own. In some cases, however, the forest assumes a more or less completely mixed character. It is this varied type of forest, intercalated with open clearings and stretches of marsh and lake, that renders the enclosed area so admirably adapted for the home of deer of various kinds collected from many parts of Northern Europe and Asia, and whose habits consequently display considerable diversity.

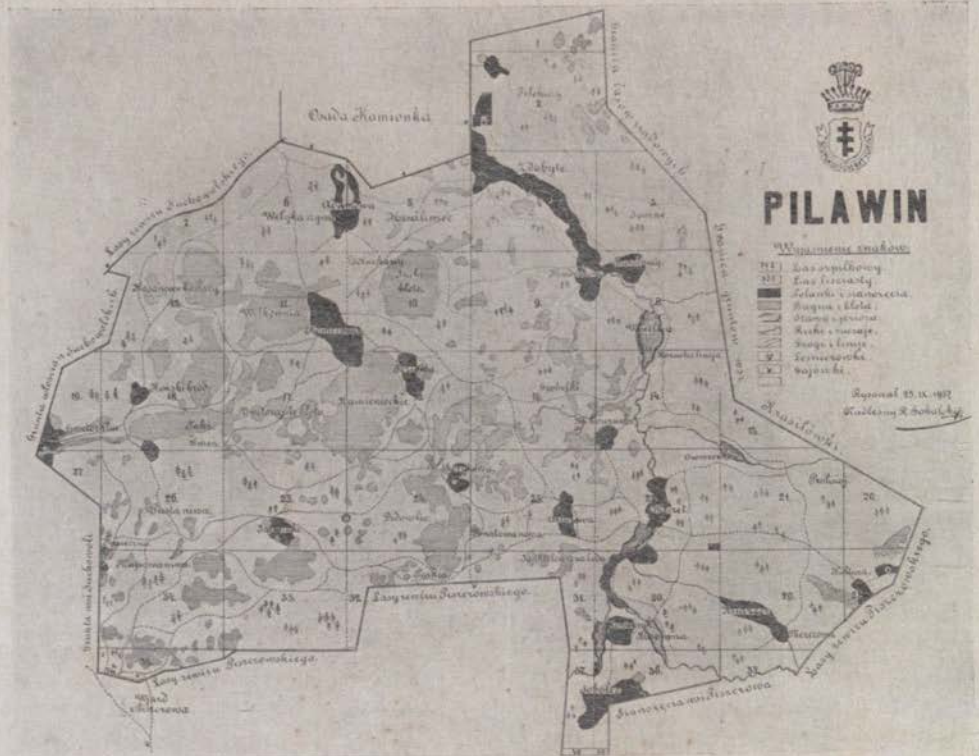
Many of the firs in the forest are of gigantic dimensions, one in particular measuring no less than twelve feet in girth at a man's height from the ground.

One peculiarity of the Pilawin forest — shared by no other in the district — is the presence of numerous luxuriant patches of the Crimean azalea (*Azalea pontica*), a species whose nearest natural habitat is the Crimea.

According to local tradition, it was introduced from there to Pilawin by Tatars about two centuries ago; the seed having been conveyed in the nose-bags of their horses. The yellow blossoms of this fine azalea impart an unwonted brilliance to large patches of the Pilawin forest in spring. At the time of my visit there was an abundance of edible berries of the cranberry and bilberry type.

As Pilawin has only been enclosed for about four years, it may be regarded as still in the experimental stage; but so far as it has at present gone, the experiment promises to be a distinct success.

As the climate in winter is extremely severe, it is obvious that only hardy species can be expected to thrive; and it is the main object of the owner that the representatives of these should appear as if they were living in a really


PILAWIN
Wyjaśnienie znaków:
Las sosnowy
Las liściasty
Zabudowania
Drogi
Rzeka i rowy
Granice
Cmentarze
Osada Kamionka
Dobrzyte
Kamionka
Pilawin
Pilawy
Las sosnowy Pilawińskiego
Las sosnowy Kamionkowskiego
Las sosnowy Pilawińskiego
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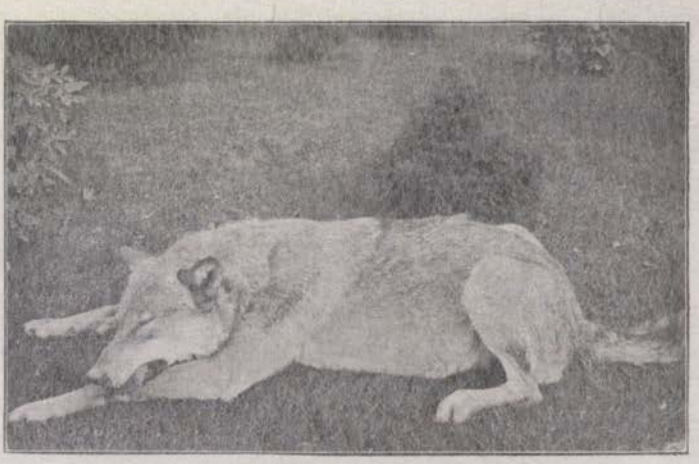
Las sosnowy Pilawiń

wild state. To what extent he has succeeded in this, will be apparent in the sequel. When the Pilawin park was first enclosed, the only large game in the forest were roedeer, of which a certain number were included within the ring-fence. These have now increased and multiplied to such an extent that roebuck-shooting is permitted in Pilawin; and, indeed, is almost necessary in order to keep the number of these deer within proper limits. In connection with these roebuck it may be mentioned that during the unusually severe winter of 1906-1907 a considerable number of them succumbed to the effects of the cold, whereas not a single death occurred among the introduced species.

With the exception of the wild boars referred to above as inhabiting the pine-forests near Schepetowka, roebuck are the only big

game now to be met with in the district immediately around Pilawin. Elk occur, however, in the forests about forty miles to the northwards, and an occasional straggler from these



WOLF KILLED NEAR ANTONINY IN 1907.

may make its appearance near the preserve in spring.

Wolves, too, either singly or in small parties, may be in evidence during winter; but lynxes were exterminated many years ago; while bears, as already mentioned, have been

unknown for at least a century and a half; and red deer, to say nothing of bison, disappeared at a much earlier date. The last beaver known to inhabit the Pilawin district was

THE PILAWIN BEAVER.

killed in 1904; but these rodents are still not uncommon some fifty miles to the northward, and subsequently to our visit (in December) the species was reintroduced into the preserve, where a portion of one of the lakes has been enclosed for its reception. Two specimens—a young and

an old male—were trapped about fifty miles north of the park; and on arrival the old one was turned out in the enclosure, where it proceeded to make itself at home, constructing a lodge and gnawing timber. Some time later the young one was introduced, but the old one chased it away, and eventually bit and drowned the unfortunate creature. Badgers are still numerous in certain parts of Pilawin, where they have some huge "earths," while a few otters remain, and martens and polecats abound.

A few hares are to be met with in the open country; but rabbits are unknown in the district, the ground being for the most part too moist and low-lying to suit their habits, although they occur some miles away.

As regards birds, a flock of some thirty bustards (*Otis tarda*) was reported not far from

Antoniny about the time of our arrival; and the species is still fairly common in this part of Volhynia. Cranes and white storks are common in summer, but both species were on the eve of departure at the time of our visit. In some of the villages situated near swamps, almost every house has at least one stork's nest on its roof; the total number of nests in a colony of this sort ranging from fifty to one hundred. Although the species is protected in Sclavonia, in this country there is nothing to prevent any one from shooting a stork. The bird is, however, considered to be semi-sacred by the natives; the popular belief being that if a stork is shot, its mate will come and set fire to the house of the destroyer.

Black storks are very scarce, and the appearance of one during our visit was there-

fore an unusual event. They depart later than the white species.

Capercaillie occur in considerable numbers, both in the preserve of Pilawin and the neighbouring forests. They are shot in spring during the calling season. At one of the Count's shooting-lodges in the neighbourhood, where a metal plate is fixed to the walls to commemorate the shooting of each capercaillie, the number of such plates exceeds ninety; and in the house at Pilawin is exhibited a photograph of five cocks shot in a single day. Black game (*Tetrao tetrix*), as well as hazel-grouse (*Tetrastes bonasia*), are likewise more or less abundant in the coverts. Partridges and quail breed in the corn-fields, although in no great numbers; the partridge being the common grey species. Duck of three or four kinds, as well as a few snipe, breed in the

ELK IN WINTER.

marshes; but there appears to be no winter influx of either ducks or geese. Hazel-grouse are shot by beating the forest, when the birds alight momentarily on the branches of the firs or oaks, where they offer fair marks.

The sight of a sea-eagle sailing majestically over the forest glades is comparatively common; while spotted eagles may from time to time be observed, and harrier-eagles (*Circaëtus gallicus*) are abundant. Eagle-owls (*Bubo ignavus*) haunt the pine-forests at all times of the year; and in spring a certain number of snowy owls (*Nyctea scandiaca*) make their appearance from the north. A semi-Indian character is communicated to the bird-fauna by the number of blue rollers (*Coracias garrulus*), locally known as Polish parrots, which may be seen in the open country; while lovely blue-throats (*Cyanecula*

suecica) likewise form objects of special interest to the ornithologist from England. Of other birds it will suffice to mention that wheatears, red and grey shrikes, magpies, and wagtails are most in evidence in the open, while jays, green and pied woodpeckers (lesser and great), and nuthatches abound in the forest.

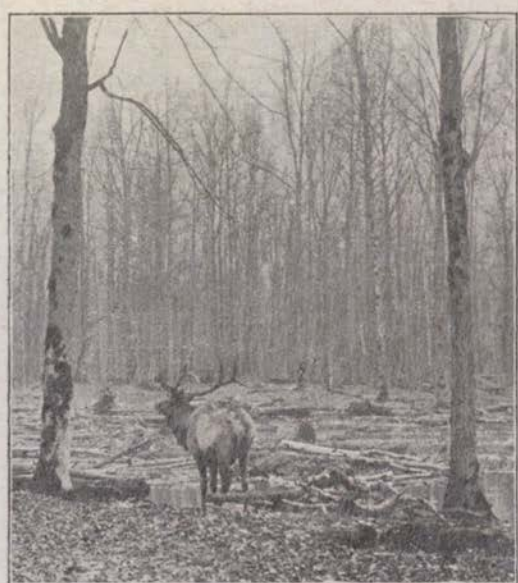
The most interesting feature in the reptilian life of the country is the occurrence of a number of European water-tortoises (*Emys orbicularis*) in the forest lakes and ponds. One of these we brought home, where it is now flourishing in a green-house. Reference may also be made to the hosts of green tree-frogs (*Hyla arborea*), whose loud croakings are frequently the only sounds to break the impressive mid-day stillness of the forest. When we first heard the croaking, we mistook it for the note of a bird. The huge size

of the ant-hills, many of which are over a yard in height, is another feature of the forests which cannot fail to strike the observer fresh from England. The one drawback to existence —and it is a great one—in this forest-paradise is the abundance of mosquitoes, which make their presence known in the usual objectionable manner.

After these general observations the attention of the reader may be specially directed to the foreign big-game animals which form the great feature of the park. These include European and American bison, elk, Persian and Caucasian red deer, American wapiti (*Cervus canadensis*), Altai or Sayansk wapiti (*Cervus canadensis asiaticus*),[1] a very dark-coloured

[1] This identification is provisional, as it is exceedingly difficult to recognise the various races of Asiatic wapiti when seen at a distance. For the names and characteristics of these races the reader may consult an article in the *Field* newspaper for January 1908.

wapiti from the Yenisei valley, the Pekin or Dybowski's deer (*Cervus hortulorum*), and the Siberian roebuck (*Capreolus pygargus*). The



AN ASIATIC (? SAYANSK) WAPITI.

great charm connected with the bison and deer in the Pilawin preserve is that they are living in what is practically a wild state, and in order to be seen have in many cases to be regularly

"stalked," although not unfrequently the tourist may come upon them more or less unexpectedly.

WAPITI STAG AND HIND.

The extent of the park is, indeed, so great that there is probably nothing to suggest to its denizens that they are living in an enclosed

area; and the diversity in the nature of the forest, together with the presence of numerous large clearings (either natural or artificial), enables them to select and inhabit the kind of country best suited to their needs. In consequence of this freedom and choice of "station," each species or individual takes possession of a kind of territory of its own; the elk skulking singly amid the thick foliage of the deciduous forests, while the bison prefer the open clearings, with the adjacent covert for retirement, and the wapiti favour the pine-forest. Roebuck, on the other hand, are to be met with, either singly or in pairs, in almost all parts of the forest. As labourers are constantly employed in the preserve during the winter months in draining, timber-felling, and road-making, while carriages traverse the network of roads when visitors are staying at

the lodge (to say nothing of those constantly used by the park director), the animals are, however, well accustomed to the presence of human beings, and can consequently be approached to within comparatively short distances. Nevertheless they are not too tame; retaining, in fact, all the characteristic traits and habits of really wild creatures. In the late summer and early autumn, when the wapiti stags are calling (as was the case at the time of our visit), it is, of course, necessary to exercise considerable care and caution in approaching them, and it is well for visitors to be at all times accompanied by one of the foresters or keepers in the parts most frequented by the animals.

Here it may be mentioned that, a short time subsequent to our visit, the stags in the preserve, as I am informed by Count Potocki,

became on a sudden unusually ferocious, attacking everything and everybody within reach. The head-keeper, Adam, was badly

THE DEAD BISON.

gored by the big wapiti, but happily recovered. Soon afterwards the same stag attacked and killed the only bull American bison, this being, of course, a great loss, as it will be difficult

to find another mate for the one cow by which alone the species is for the moment represented in the preserve.

WAPITI STAG REPOSING.

Perhaps the best way of conveying to the reader an idea of the manner in which the animals are encountered will be by recording

the results of our first day's walk and drive through the park.

After walking a mile or so from the house, the first animal encountered was a fine wapiti stag quietly reposing in one of the large clearings, which allowed us to approach within a couple of hundred yards; soon after, we came across another wapiti stag, accompanied by two hinds of his own species and a couple of Persian red-deer hinds. Some little distance farther and we encountered a considerable herd of wapiti, a Persian red-deer hind, an Altai wapiti hind, and two hinds of the dark-coloured Yenisei wapiti. A couple of roebuck were next seen darting and leaping through the under-covert, and it was noticed that although one was in the red summer coat, with no white rump-patch, the other wore the olive winter dress, with a conspicuous

white blaze. It seems difficult to account for this difference, unless it be that fawns of the year assume the winter dress very early or develop it at once. This is a point in regard to which definite information from sportsmen would be of great value and interest to naturalists.

The next animal seen was a three-year-old bull elk lazily browsing the foliage of the aspens among which it stood, and where indeed it was almost invisible except to the practised eyes of the forester. This elk was recently brought from the estate of Prince S. Radziwill (brother-in-law of the Count) in Lithuania; and since it had experienced a long journey and had been turned out only a few months previous to our visit, it was comparatively tame, so that we were actually able to watch the curious movements of its flabby muzzle as the creature browsed.

To resume the chronicle of our day's excursion, the next animals seen were three beautiful Dybowski bucks, feeding in swampy pasture by the side of an aspen-forest. The oldest and largest of this handsome trio was purchased from a dealer, but the other two were bred in the forest, and are certainly splendid specimens of their kind. The old buck had his antlers clean, and was already assuming the uniform dark brown winter coat. In the younger bucks, on the other hand, the antlers were still in the bright red "velvet" so characteristic of all the deer of the sika group, and the rufous, white-spotted coat was shown in its full summer beauty. The group formed a lovely picture, the sight of which was alone almost a sufficient reward for the fatigue of the journey from England. We were, moreover, particularly fortunate in coming

A BULL ELK.

upon these deer on this occasion, as we never saw them again during the whole course of our sojourn in the park.

THE PEKIN OR DYBOWSKI BUCKS.

According to Count Potocki's observations, the stags of this species are peculiar in that they utter no call—or, at all events, no loud one—during the breeding season. It would

be interesting to ascertain if this accords with the experience of observers elsewhere, and whether this silence is characteristic of all the deer of the sika group.

ELK CALVES IN THE SNOW.

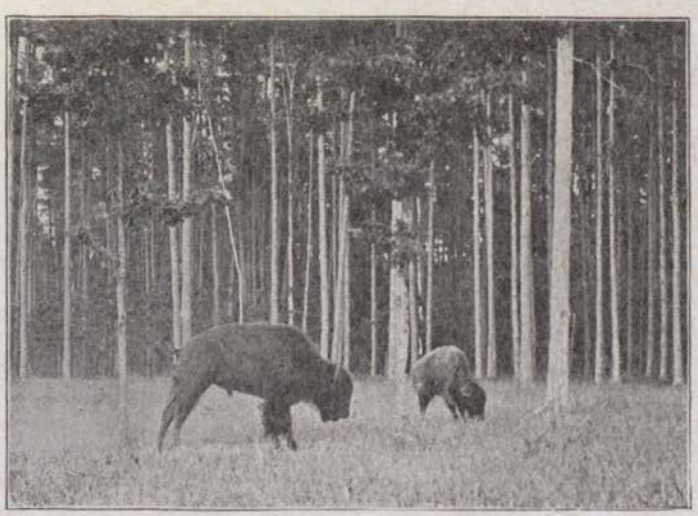
The next sight was an elk hind with two calves, browsing among thick aspen-forest; the group being almost invisible at a comparatively short distance. All three animals were in splendid condition; and the mere fact

of the production of twins by this hind affords convincing testimony as to the well-being of the elks in the Pilawin preserve. That they should thus flourish is, however, only what might naturally be expected, seeing that they are living under absolutely natural conditions in the original haunts of the species.

The final scene in this memorable day's excursion was perhaps the finest and most interesting of all. Amid a large open clearing, surrounded by tall pine and birch forest, stood a noble group of four European and two American bison, all quietly feeding on the luxuriant pasture. The whole six animals looked in splendid condition; and the group also served to emphasise the marked superiority in point of shape and general appearance of the European over the American species. The much darker colour and the more

heavily haired fore-legs of the latter, as contrasted with the former, formed very noticeable features.

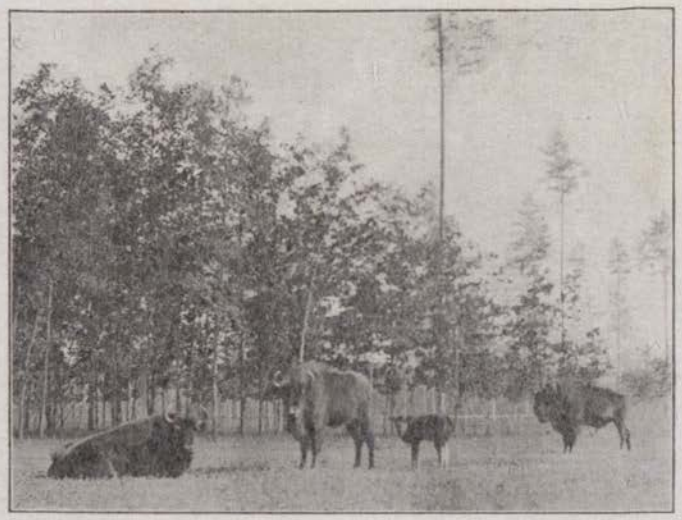
The four European bison—the *zubr* (pro-



THE AMERICAN BISON.

nounced *zoobre*) of the Poles and Russians—comprised a bull and two cows presented by H.I.M. the Czar to the owner of Pilawin, and a yearling calf born in the preserve. Another calf was born this year, but

unfortunately died soon after birth. The bull and cow came from the imperial Bielowicz preserve in the province of Lithuania, and there is every hope that in course of time they may



THE EUROPEAN BISON HERD.

give rise in Pilawin to a herd equalling that of the Duke of Pless in Silesia.

It had originally been our intention to pay a visit to Bielowicz in order to see the famous bison herd, and permission to

do so had been graciously accorded by H.I.M. the Czar, but the long distance and difficulties connected with the language-question reluctantly induced me to abandon the intention.

Here it may not be out of place to mention that the name "aurochs," so generally applied to the European bison (*Bos bonassus*), is a complete misnomer; that term really denoting the extinct wild ox (*Bos taurus primigenius*), which lingered longest in Poland. On the extinction of the latter species the name became transferred by the Teutonic nations to the bison, which in its own country is, however, universally known as the zubr.

By ascending a high wooden stage erected between some tall firs, we were enabled to obtain an excellent view of the bison on the plain below. The bull displayed some signs

of uneasiness by staring fixedly at our party and lashing his tail furiously from side to side; and it was therefore deemed inadvisable

AMERICAN BISON BY THE STAGE IN THE FOREST.

to approach him too closely on foot. On a second occasion we enjoyed the opportunity of seeing this magnificent beast enjoy a good roll in the sand, when it was observed that, owing

to the height of his hump, he was unable to turn completely over, and had to content himself with half-rolls.

The animal most difficult to come across in the park is the Siberian roebuck; but we were luckily enabled to obtain one glimpse of a fine old buck quietly feeding in thick covert, although he was unfortunately frightened away by a fox-terrier before we could get a full view. The one glimpse was, however, sufficient to show that the summer coat of this species is lighter-coloured than that of the European roebuck, being yellowish fawn in place of rufous. Whether, however, the white rump-patch is developed at this season I was unable to see. Unfortunately, the majority of the Siberian roe-deer in the park are bucks. Whether they will cross with the European species remains to be seen.

Of the Yenisei wapiti (of which more anon) it has already been mentioned that we saw two hinds during our first day's tour. A day later I had the good fortune to come across the stag feeding in the open; but as it was getting dusk, it was difficult to observe his characteristics accurately. Indeed, it is by no means an easy matter to arrive at any satisfactory conclusion as to the specific or sub-specific characters of nearly allied deer when only single specimens are seen by themselves in the open.

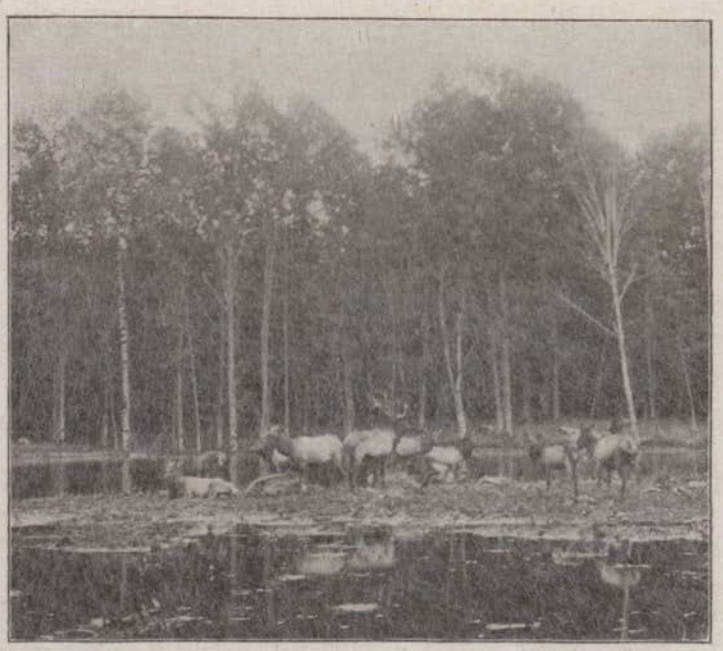
Several years ago repeated attempts were made by the Duke of Bedford to acclimatise elk in the park at Woburn; but the experiment proved a total failure; the animals dying off one after another, till it was finally decided to abandon the attempt to establish the species as a denizen of the domain. Much the same

thing occurred in the case of the American wapiti; the herd of which was, however, kept in an extensive paddock instead of in the open park. In this instance it was likewise decided to be useless, at all events for the present, to attempt to maintain the herd.

In Pilawin, on the other hand, both elk and wapiti flourish remarkably well; and it is confidently anticipated that in the course of three or four years, when the number of stags of each species will have become too great, that elk-hunting and wapiti-shooting will be recognised sports in the preserve.

During the present year the number of elk calves born at Pilawin was no fewer than fourteen, of which at least two were, as already mentioned, twins. During the two or three previous years the inclusive number was ten, so that the progressive increase is very

marked. In all cases which came under my own personal observation the condition of both cows and calves was all that could be desired;

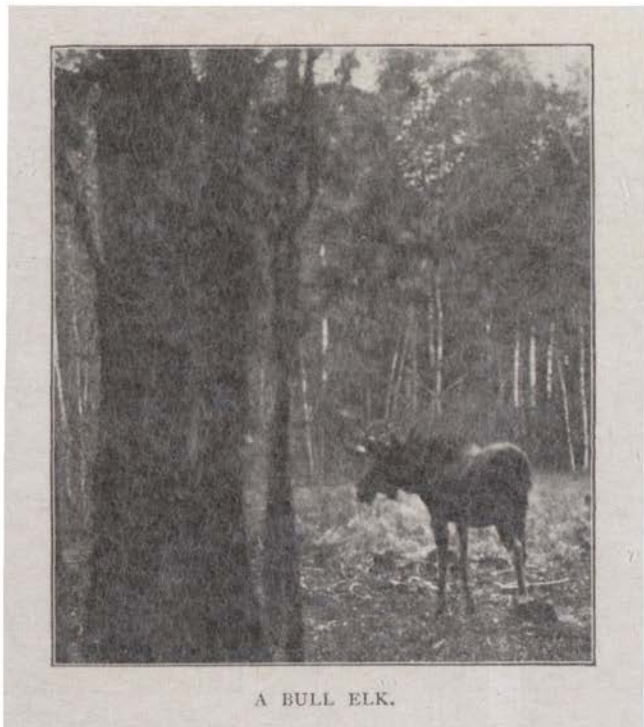


WAPITI BY THE LAKE.

and the same holds good with regard to the numerous yearlings and two-year-olds that were seen during our visit.

This highly satisfactory state of affairs may doubtless be attributed to the absolutely natural conditions in which the elk are living, and the practically unlimited area over which they can wander. The existence here and there of large natural and artificial lakes (the latter formed by damming up small streams), coupled with the numerous swampy tracts, makes the forest an ideal one for these animals, and it is evident that they thoroughly appreciate their surroundings. One of the prettiest scenes witnessed during our visit was the sight of a cow elk leading her two calves across the largest and deepest lake with the apparent intention of accustoming them to swim. One of the yearling bull elks (not born on the estate) was in the habit of coming in the evenings close up to the shooting-lodge in order to be fed with bread; and if its wants

were not promptly attended to, would actually put its head in at the open door or window. Close examination of this elk served to con-



A BULL ELK.

vince me more than ever that the glandular tuft on the inner side of the hock corresponds with the similarly placed callosity or "wart"

in the horse, and consequently that the latter represents a decadent gland. I also noticed on the forehead, a short distance above the budding antlers, a pair of whorls in the hair, which are not generally mentioned in descriptions of the species, and may likewise be glandular in function.

The length of limb distinctive of elk generally is especially noticeable in immature animals. Compared with other deer, elk at this age may indeed be likened to storks among birds; the length of limb being for the same purpose in both.

That elk and other large species of wild deer require a very extensive area in order not to deteriorate seems to be undoubted. The owner of Pilawin considers, indeed, that the number of head of these animals should be limited to one to every ten acres; while he is

also of opinion that the maximum number of true deer in the preserve should not exceed three hundred head, and that the elk herd should be limited to one hundred.

In summer the main food-supply of the Pilawin elk apparently consists of the leaves of deciduous trees, especially aspen; but in winter this is replaced by the young shoots and twigs of birch, to obtain which the elk are constantly breaking down young saplings. The natural food-supply of the preserve is, however, largely augmented by patches of oats, buckwheat, lupin, potatoes, and Jerusalem artichokes, which are sown or planted in the clearings of the forest wherever the soil is suitable. The buckwheat and oats form summer fodder, while the lupin, potatoes, artichokes, acorns, and horse-chestnuts serve as a winter supply, the deer soon learning

to scrape out the tubers from the ground with their hoofs.

Before leaving the subject of elk, reference may

WAPITI IN WINTER.

be made to a point in connection with the conformation of their antlers which struck me as the result of an examination of a large series of immature specimens in the Pilawin shooting-lodge.

It has long been recognised that the antlers of elk belong to what is known as the forked type, which occurs typically in such species as the roebuck, Père David's deer, and the American white-tailed and mule deer. In this type, it may be well to remind the reader, there is no brow or bez tine, and the main beam of the antler divides at a longer or shorter distance above the burr into a single fork, of which the back-prong nearly always divides again, while in many cases both prongs are more or less divided, the greatest complexity occurring, however, very frequently in the hind one.

Hitherto elk-antlers have been regarded as altogether *sui generis*—mainly on account of the fact that they rise at right angles to the middle line of the skull. But a comparison of immature specimens in which the front prong

of the main fork is double with adult antlers of the mule-deer will show that the two are practically identical in type. In both forms the front prong of the main fork is two-tined, while the hind prong carries three tines. The distinction between the two is, in fact, chiefly restricted to the difference in their orientation. In the case of those adult elk in which the antlers assume the characteristic shovel-like form, the resemblance becomes, of course, more or less completely lost.

If this view be correct, it will be advisable to modify the classification of the *Cervidae* adopted in *Deer of All Lands*, and to place the elk in the neighbourhood of the roebuck and the mule-deer, with which it agrees in the structure of the foot-skeleton. Moreover, it seems not improbable that the antlers of reindeer are really of the forked (in contra-

distinction to the brow-tined) type, and if this be so, that genus must also be placed near the roebuck—an arrangement which would accord with the one proposed many years ago by the late Sir Victor Brooke on the evidence afforded by the structure of the skeleton of the fore-limb.

The present opportunity may likewise be taken of referring to two very fine pairs of elk-antlers obtained by Mr. Sokalski in Siberia. Despite the fact of their being palmated, these antlers (which I hope to have the opportunity of describing on a future occasion) may serve to confirm the distinctness of the East Siberian elk (*Alces machlis bedfordiae*), as they appear to differ in certain details of form from those of European elk.

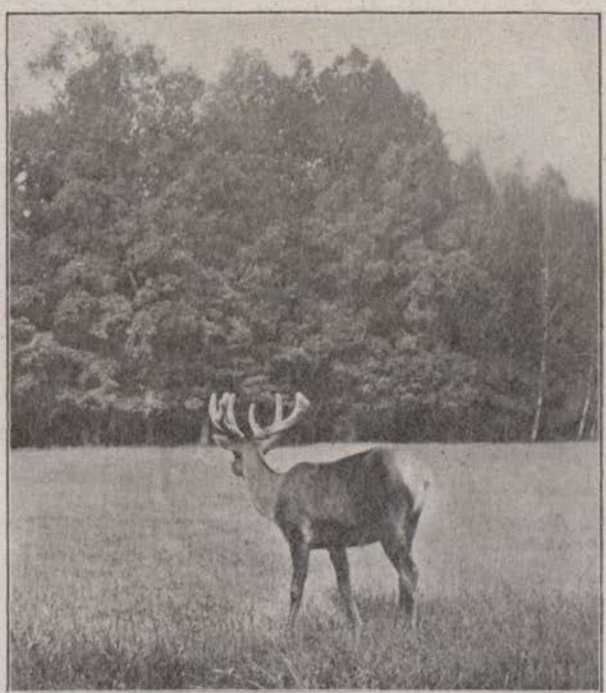
Returning to the Pilawin deer, the next to be noticed are the American wapiti, which are

flourishing fully as well as the elk; the number of fawns born during the year being nine.

Another feature indicating the satisfactory condition of the herd is the large size of the antlers grown by the big stags, of which there are now three; all being imported animals. Of the antlers shed by the two best stags of their year in 1907, the length along the outer curve is in one case forty-four and in the other forty-one inches; while in both instances the antlers are very symmetrically formed, carrying the usual six points a side.

In addition to the herd of American wapiti, Count Potocki owns a certain number of the Asiatic representatives of that group, generally known on the estate as "maral," an extremely misleading designation, which ought to be restricted to the Persian or Eastern race of

the red deer. Some of these Asiatic wapiti, which were obtained by purchase, belong



ONE OF THE BEST WAPITI, WITH THE ANTLERS IN VELVET.

apparently, as mentioned above, to the race commonly known as the Altai wapiti (*Cervus canadensis asiaticus*), but for which the name

Sayansk wapiti is better. As regards these, beyond the fact that they are in the same excellent condition as the Pilawin deer generally, there is nothing calling for special mention.

Considerable interest attaches, however, to half-a-dozen wapiti (including two fine stags) obtained by one of the Count's keepers from Krasnoyarsk, on the upper Yenisei, in about long. 93° E. and lat. 56° N.

Compared with the American and the other Asiatic wapiti in Pilawin, these Yenisei deer are darker-coloured in summer; this darkness being specially noticeable in immature hinds, which look almost slate-coloured in summer. The director of the park tells me that another difference is to be found in the more upward extension of the black borders of the light rump-patch, which, in fact, unite anteriorly to

form a dorsal stripe. The fawns, too, retain their spots to a comparatively late age, whereas in the Thian Shan wapiti (*C. c. songaricus*), and possibly also in the Sayansk race, the spotting disappears early.

The antlers of the Yenisei wapiti, as represented by a pair in the Pilawin shooting-lodge and two other pairs in Mr. Sokalski's house at Pisczow (Pischef), four miles away, are also distinctive. In all three pairs the fourth tine is comparatively small, and bends inward to a certain extent, so as not to lie exactly in the same plane as the two above. In one specimen, at least, the trez tine is absent.

While at Pilawin I was in great doubt to what race these Yenisei wapiti should be referred. Recently, however, Dr. P. Matschie, of the Berlin Museum, has published a paper

on the wapiti of Central Asia,[1] in which important information is given with regard to the characteristics of the antlers of the different races, and the localities where the type specimens were obtained. The race here termed *C. c. asiaticus*, which Dr. Matschie calls *Cervus sibiricus*,[2] is stated to be typically from the Sayansk and Baikal Mountains. With this race is provisionally associated the wapiti from Krasnoyarsk, although it is added that the latter may be distinct. Now as the Sayansk *C. c. asiaticus* was stated by its describer Severtzow to be lighter in winter than the Thian Shan *C. c. songaricus*, it is highly improbable that it should be very much darker in summer. I

[1] *Sitzungsberichte Ges. naturfor. Freunde*, Berlin, 1907, p. 222; see also an article by myself in the *Field* of 11th January 1908.

[2] As I was the first to attempt to put right the confused nomenclature of Severtzow, I consider that the names I have adopted should stand.

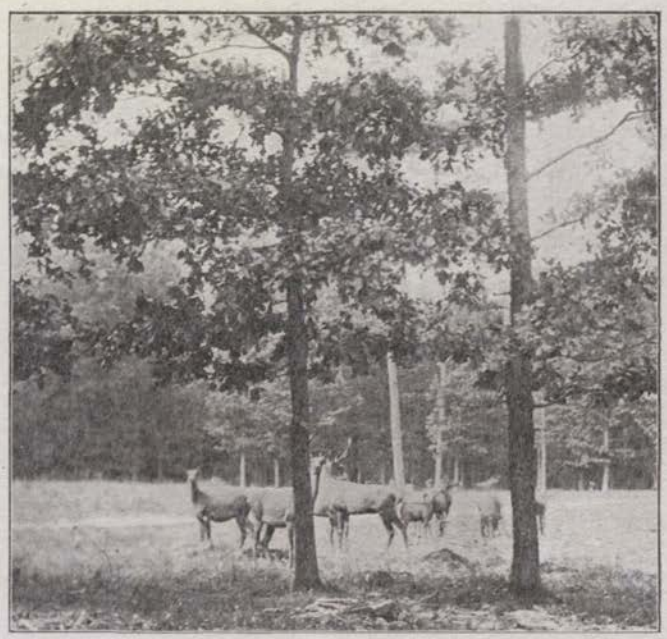
therefore think that Dr. Matschie's suggestion as to the distinctness of the Yenisei wapiti may very probably be well founded; and if

A VIEW IN PILAWIN WITH ASIATIC WAPITI IN THE FOREGROUND.

this should prove to be the case when specimens are available for comparison, the race might well be named in honour of Count Potocki.

As already mentioned, the red deer group

is represented in the Pilawin preserve by the true Persian maral (*Cervus elaphus maral*) and by the maral of the Caucasus. From wapiti



CAUCASIAN RED DEER.

the hinds of these deer are distinguishable at a glance by their red coats and the larger amount of white and black on the sides of the rump-patch as well as by the longer tail.

Unfortunately, I had no opportunity of seeing the Persian and Caucasian red deer side by side, but I am informed by Mr. Sokalski that they are practically indistinguishable, as, indeed, might be expected from geographical considerations.

In the large amount of black on the thighs they differ, according to the same informant, from Carpathian deer, which are more uniformly coloured, with the general tint decidedly darker.

Although this information is valuable so far as it goes, it unfortunately does not afford a definite clue as to which form of Carpathian deer is referred to (see letters in the *Field* for 1905, vol. cv., pp. 326 and 355). Mr. Sokalski has, however, a fine pair of Carpathian antlers characterised by their great massiveness, the absence of a bez tine, and the

position of the trez tine midway between the brow tine and the curiously compressed and expanded crown. A pair of much younger antlers from the same locality likewise lacks the bez tine. An old antler of the same type from Galicia is figured on page 220 of my *Great and Small Game Animals of Europe, N. and W. Asia, and N. America*, and two antlers, one from Asia Minor and the other from the Crimea, described and figured by myself in the Zoological Society's *Proceedings* for 1890 (p. 363, pl. xxx.), likewise present the same general characteristics, although the reduction of the tines is still greater. Mr. Sokalski also possesses a pair of antlers (one entire and the other imperfect) dug up a few years ago some fifty miles distant from Pilawin which can scarcely be referred to any other deer than the one under consideration,

showing the same absence of the bez tine and a similar conformation of the crown.

Assuming all these antlers to belong to the same type—and it is difficult to come to any conclusion—we have evidence of a race of red deer ranging from Volhynia through the Carpathians to Asia Minor and the Crimea. So far as I can determine, this deer seems to agree with Mr. Hamilton Leigh's "grey Carpathian stag" (*Field*, 1905, vol. cv., p. 355), a race characterised by the relatively small number of tines to the antlers. That (contrary to Mr. Leigh's opinion) it is distinct from the maral of Persia and the Caucasus, I have little doubt, and if there were a good specimen in a public collection to take as a type, I should be prepared to suggest for this race the name *Cervus claphus carpathicus*.

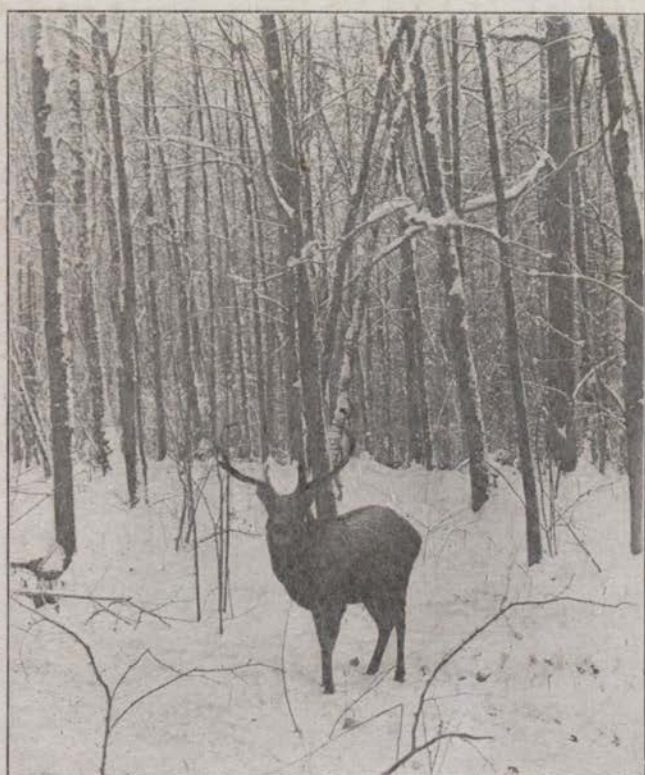
This, of course, leaves open the question

as to the occurrence of other stags in the Carpathians.

Both the Persian and Caucasian red deer (maral) do exceedingly well in the Pilawin preserve, where they will doubtless before long form a big herd. At Antoniny the Count keeps, for hunting purposes, a small number of the so-called Polish deer from the Imperial preserves of Spala, in Poland, which, to my great regret, I had no opportunity of seeing. I trust, however, that he will send a head to the British Museum at no very distant date.

In regard to the other deer at Pilawin, it will suffice to state that two Dybowski fawns were born during the present year.

Continuing the chronicle of our own doings, it remains to mention that a couple of days before our departure Mr. Sokalski, at the Count's suggestion, very kindly arranged a series



A PEKIN OR DYBOWSKI STAG.

of "beats" in order that we might be afforded the best possible opportunity of seeing the denizens of the preserve; and these formed one of the most interesting episodes of our visit.

A BIG WAPITI.

Roedeer were, of course, put up in large numbers; and among these one buck was noticed with beautifully "pearled" antlers. We were fortunate in getting a splendid view of the best stag of the Yenisei wapiti, when the

features referred to above were duly noted. Between two of the "drives" we came accidentally upon the biggest herd of American wapiti, with the finest stag in the park among them. When first seen they were feeding in an open glade, but as the morning was rapidly becoming hot, they almost immediately betook themselves to a shady part of the forest, where it was a charming sight to watch them lie down one after the other, with the master-stag (who had been calling loudly) in the midst. Soon afterwards three full-grown cow elk broke covert; advancing with a long swinging trot to the side where I was standing, and then halting to look around, as if undecided which course to take. There was something almost ghost-like in their appearance as they first loomed into view out of the thick covert, and then vanished.

The great event was, however, reserved for the afternoon, when, after the twin elk calves had been driven out of one piece of forest and some of the wapiti out of another, the six bison, with the four Europeans leading and the Americans in the rear, burst out into the open in a heavy, lumbering gallop, which literally shook the earth, close to where my daughter was standing. It was indeed a magnificent spectacle. The "hustling" which the animals underwent during the drives made them somewhat fierce, with the result that two of the watchers had to spend the night on a shooting-stage.

In regard to the Pilawin preserve as a whole, there seems little doubt that it will ultimately prove a complete success, and form a unique centre of interest to sportsmen and naturalists alike.

In addition to the species and races already represented, the Manchurian or Bedford's wapiti (*Cervus canadensis xanthopygus*), the Amurland wapiti (*C. c. luedorfi*), which I have now good reason to regard as distinct from the former, the hangul or Kashmir stag (*C. cashmirianus*), Thorold's deer (*C. albirostris*), and the shou or Sikhim deer (*C. affinis*) would probably do well in the preserve, if specimens could be procured. Sikas and wild fallow deer would of course thrive, but the owner has no fancy for either. If smaller deer are desired, the Himalayan musk-deer (*Moschus moschiferus*) and the Chinese water-deer (*Hydrelaphus inermis*), as well as the Tibetan and North Chinese tufted deer (*Elaphodus cephalophus* and *E. michianus*), might be recommended as interesting species likely to flourish; and, if specimens could be procured, the milou, or

EUROPEAN BISON IN A FOREST RIDE.

Père David's deer (*Elaphurus davidianus*), would almost certainly prove a success. Sheep, goats, and saigas would assuredly not do; but, despite the fact of their being mountain species, thar, serow, and takin (at present not procurable) might be worth a trial, as they are chiefly inhabitants of forests.

The splendid condition in which the preserve is kept, and the large amount of work already accomplished in the matter of road-making and drainage, afford abundant testimony to the energy and capacity of Mr. Sokalski, the director. A word of commendation may likewise be bestowed on the relatively high degree of education of the foresters, who display a knowledge of zoology and botany conspicuous by its absence among most English gamekeepers. Nearly all of these men are acquainted with the scientific names of the

commoner animals and plants to be met with in the forest; and they know all the berries and funguses which are good for food, as well as those to be shunned.

While on this point I may venture to put in a novel plea in favour of the retention of the old-fashioned type of scientific nomenclature. My German (so far as conversation is concerned) is but limited, while of Polish my knowledge is *nil.* And yet, despite these drawbacks, I was able to acquire from the director and the foresters a good knowledge of the denizens of the forest by means of their scientific names. If, however, I had known the white stork only by its modern designation of *Ciconia ciconia*, instead of by its old-fashioned title of *Ciconia alba* (and so in other cases), a great deal of such conversation would have been impossible.

Before bringing these notes to a close it will not, perhaps, be out of place to devote a few lines to the domesticated ponies and cattle of the district, as it was one of the objects of my trip to endeavour to ascertain whether these respectively exhibited any special resemblances to the wild Przewalski-horses (or rather ponies) of the Gobi Desert, and to the extinct wild ox, or aurochs, which, as already mentioned, lingered longer in Poland than elsewhere.[1]

A very noticeable feature among the cattle of the district is the prevalence of black, dark brown, and black-and-white; equally noteworthy being the frequency among the piebald individuals of a broad white line down the middle of the back. A similar white band also characterises many of the rufous or fawn-

[1] I have already published these observations in the *Field*.

coloured types, which, on the assumption of descent from the aurochs, must be regarded as retrograde derivatives from the black (or black-and-white) phase. Herberstain described the wild aurochs as being black with a broad light-coloured band down the middle line of the back; and it thus seems highly probable that in the white dorsal line of the partially albinistic Polish cattle we have a distinct survival of the ancestral type of colouring. Among the black-and-white cattle of Holland such a conspicuous white band seems less common, and the same is the case with English shorthorns. Major Barrett-Hamilton tells me, however, that it may be observed in some Kerry cattle. The horns of the ordinary Volhynian cattle, although small, are of the aurochs type.

The large white, or rather pale cream-coloured, Podolian cattle do not seem to

extend much to the north of Schepetowka. At the Berlin Zoological Gardens I learnt an interesting point in connection with these cattle, namely, that while the oxen, cows, and calves are wholly white, the old bulls have black muzzles and ears, as well as a certain amount of black on the face and limbs. As black in the Javan wild ox or bantin (*Bos sondaicus*), to say nothing of many antelopes, is developed only in the adult males, it seems highly probable that the black points of the Podolian bulls may be the last vestiges of the aurochs-colouring in this albinistic breed. In connection with this, it occurs to me that the red specimens of the aurochs which have been described may have been cows, as it is quite probable that, in some cases at any rate, the females may have been in the same stage of colour-evolution as the cow bantin.

The country ponies are for the most part uniformly bay, dull chestnut, or mouse-coloured, with the tail well haired to the root. Occasionally a pale brown dorsal stripe is observable; but white "stockings" and a white star on the forehead (which are both regarded by Professor Ridgeway as indicative of Arab blood) are very rare, and I saw no trace of dark barrings on the legs. The callosities or "chestnuts" on the hind-legs appear to be always small. In general characters these ponies seem to approximate to the now extinct half-bred and mouse-coloured wild tarpan of the Kirghiz steppes, rather than to the dun Przewalski type of the Gobi Desert, which is apparently the true tarpan. I hope to be able to write more definitely with regard to this point on a later occasion, as Count Potocki has kindly promised to send to the Natural

A GOOD WAPITI.

History Branch of the British Museum a couple of skulls of these small country ponies, which will enable it to be determined whether the cheek-teeth in this breed are of the large relative size characteristic of the wild Gobi race.

Greater diversity of colour occurs among the larger ponies or horses, used for riding and travelling — probably due to a larger infusion of foreign blood. Among these I saw one of the yellow dun Norwegian type, in which the hind-chestnuts were not larger than peas.

Indisputable evidence of near kinship with the wild boar is displayed by the domesticated pigs of the country, especially the numerous black individuals, which have a thick coat of bristly hairs, developed into a more or less conspicuous mane or crest along the nape

and back. Whether, as I am informed is the case with some domesticated Hungarian swine, they have striped young, I did not ascertain.

Of the smaller wild mammals I saw none except a squirrel (kept in confinement at Antoniny), which belonged to that race of the species in which the tail in autumn is blackish brown.

Our ten days' residence, favoured for the most part with ideal weather, amid the glorious Pilawin forest came to a close on Wednesday, September 4, on the afternoon of which day we started for the railway, *en route* for Warsaw and London.

In conclusion I may be permitted to take the opportunity of tendering to Count and Countess Potocki the best thanks of my daughter and myself for a most delightful

visit, the interest of which is enhanced by the fact that we are the first English people who have enjoyed the privilege of making "a Trip to Pilawin."

A WAPITI AT GAZE.

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